A NEW SPECIES OF CYMOPTERUS (UMBELLIFERAE) FROM THE TOIYABE RANGE, LANDER COUNTY, NEVADA

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ABSTRACT

Cymopterus goodrichii Welsh & Neese is described from the Toiyabe Range in Lander County, Nevada.

In the course of field studies leading to a floristic treatment of the Toiyabe, Toquima, and Monitor ranges of Nevada, Sherel Goodrich has discovered a series of unique taxa occurring predominantly at high elevations. The species herein described is such a plant. Populations are scattered within a 13-kilometer region in the Big Creek–Kingston area of the Toiyabe Range at elevations between 2230 and 3400 m. Plants grow in talus of angular slate and limestone. The slopes are steep (40–50 percent) and the colluvial talus creeps downslope under influence of gravity and climatic factors. Plants of this *Cymopterus* accommodate the change in position of the slope by producing elongate pseudoscapes that penetrate the talus gravels to the surface.

Pseudoscapes arise singly from the summit of a caudex that is either simple or branched. Caudex branches are clothed with marcescent leaf bases. The taproot is fusiform to subcylindric and penetrates deeply into the fine substrate below the angular gravels.

Material was sent to Dr. Lincoln Constance, long-time student of the genus. He noted (pers. comm., 1979) "We do not have nor have I ever seen anything like it."

The Goodrich cymopterus is distinct from other species in the genus in its long, flexuous, narrow pseudoscape, small leaves, and short rays. It is compared in the diagnosis with both *Cymopterus acaulis* and *C. fendleri* because those taxa, while apparently not closely allied to *C. goodrichii,* are the most similar to it. It simulates those taxa with its short rays, but is separable by the purplish involucellar bractlets, longer pseudoscape, and smaller leaves.

It is a pleasure to name the species in honor of Sherel Goodrich, enthusiastic collector and botanist, and specialist in diverse aspects of plant taxonomy.

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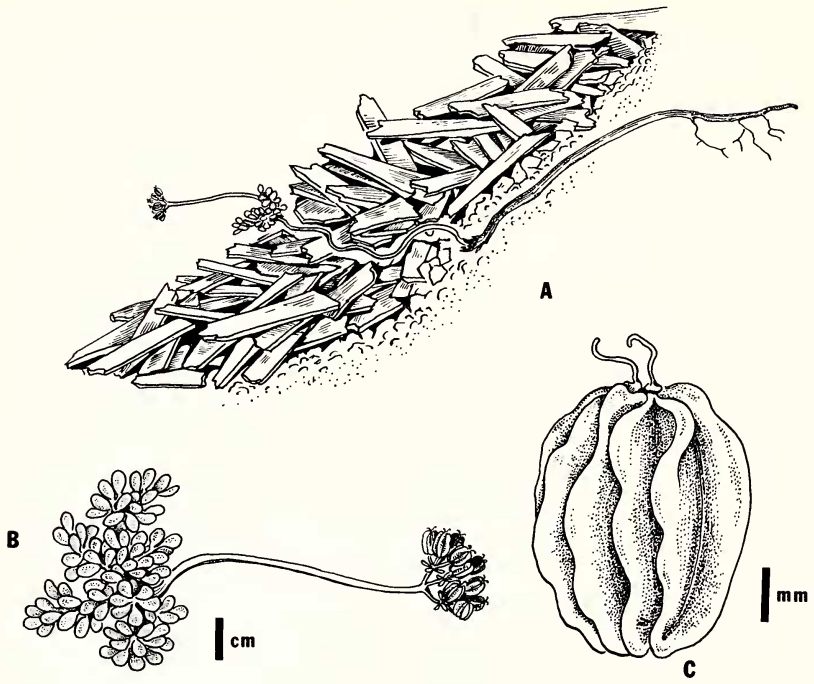

FIG. 1. *Cymopterus goodrichii* Welsh & Neese. A. Habit. B. Detail of leaves and inflorescence. C. Fruit.

Cymopterus goodrichii Welsh & Neese, sp. nov.

Ab specibus caeteris generis differt pseudoscapo longo flexuoso gracili foliis parvis radiis brevibus; similis *Cymoptero acaulis* (Pursh) Raf. et *C. fendleri* A. Gray radiis brevibus sed ab ambibus bracteis involucellis purpurescentibus pseudoscapo longiore et foliis parvioribus; et differt ad specibus caeteris pseudoscapo gerentibus radiis brevioribus et foliis parvioribus.

Herbae perennes, radice palari gracilibus fibrosa elongata; pseudoscapi flexuosi 4–15 (23) cm longi, saepe purpurascentes; folia subsessilia vel petiolis 3–50 mm longis caulina vel caudice enanescenti et 5–12 cm longi laminae 0.5–2 cm longae ovatae dissectae glaucae segmenta ultima 1–7 mm longa 0.5–2 mm lata congesta spatulata vel elliptica; pedunculi 1–6 cm longi; involucrum nullum; bracteole involucelli 3–4 mm longae lineares vel ellipticae anguste; radii 2–5 mm longi; pedicelli 2–4 mm longi in fructum; flores albidi vel purpurascentes; fructus 5–8 mm longus corpus circa 1.5 mm latum alae dorsales et laterales plerumque bene evolutae 1–2 mm latae (Fig. 1).

Perennial herbs from long, slender, fibrous taproots; pseudoscapes flexuous 4–15 cm long, often purplish; leaves cauline, subsessile or with petioles 3–50 mm long or arising from the caudex and 5–12 cm long, the blades 0.5–2 cm long, ovate, dissected, glaucous, ultimate segments 1–7 mm long, 0.5–1 mm wide, crowded, spatulate or elliptic; peduncles 1–6 cm long, involucre none; bractlets or involucel 3–4 mm long in fruit; flowers whitish or purplish; fruit 5–8 mm long, the body about 1.5 mm wide, lateral and dorsal wings usually well-developed, 1–2 mm wide.

TYPE: USA, NV, Lander Co., Toiyabe Natl. For., Toiyabe Range, crest of range between Frenchman Creek and Kingston Canyon, about 3 km n.e. of Bunker Hill, 24 km s. and slightly w. of Austin, T16N R43E S2 SE¼, 3320 m, 40 percent slope, loose slate talus of gravel- and cobble-sized fragments over gravelly soil slightly vesicular at surface, growing with or near *Ribes cereum, Haplopappus macronema, Erigeron compositus, Agropyron scribneri, Leucopoa kingii,* and *Leptodactylon pungens,* 14 Jul 1975, *S. Goodrich 11,816* (Holotype: BRY. Isotypes: UC, NY).

PARATYPES: USA, NV, Lander Co., Toiyabe Natl. For., near crest of Toiyabe Range, about 22 km s. and slightly w. of Austin, T17N R43E S36 NW¼ NE¼, w. exposure, slope 40–50 percent, shallow talus over gravelly soil, talus of limestone with some quartzite intrusions, 3170 m, growing with *Draba arida,* 21 Jul 1978, *S. Goodrich 11,874* (BRY); crest of range between Big Creek and Globe Canyon, 22.5 km s. and slightly w. of Austin, near corners of TN R43E S35–36 and T16N R43E S1–2, 3540 m, in 5–10 cm of elongated gravel- and cobble-sized slate over very gravelly sandy loam soil, pH 7.8, with slight vesicular crust, 20 percent slope, e. exposure, one plant of *Crepis nana* associated in a small area of loose talus, *Leucopoa kingii* nearby, 14 Jul 1978, *S. Goodrich 11,795* (BRY); along crest of range between Kingston Canyon and Frenchman Creek, T16N R43E S2 SE¼, 25 km s. and slightly w. of Austin, 3230 m, 14 Jul 1978, *S. Goodrich 11,831* (BRY); above head of Big Creek drainage, about 23 km s. and slightly w. of Austin, T16N R43E S2 NE¼, 3200 m, shallow slate talus over gravelly soil, w. exposure, growing with *Gilia congesta,* 21 Jul 1978, *S. Goodrich 11,866* (BRY); North Fork Big Creek, 18 km s. of Austin, 39°20′37″N, 117°6′53″W, 2230 m, gravelly slopes and very unstable gravel- and cobble-sized talus on 50 percent slope, 9 Jul 1979, *S. Goodrich 13,310* (BRY); w. side of Bunker Hill, 27 km s. of Austin, 39°15′18″N, 117°7′35″W, 3400 m, steep talus slopes of gravel- and cobble-sized limestone, associated with *Erigeron compositus, Polemonium viscosum, Gilia congesta, Astragalus platytropis, Poa rupicola,* and *Ribes cereum,* 10 Jul 1979, *S. Goodrich 13,344* (BRY); steep w. exposure near crest of range above Big Creek, 24 km s. of Austin, 39°17′5″N, 117°6′15″W, 3130 m, gravel- and cobble-sized talus of slate, with *Draba arida, Haplopappus macronema, Ribes mon-*

tigenum, Artemisia michauxiana, 10 Jul 1979, *S. Goodrich 13,318* (BRY, NY); steep s.w. exposure at crest of range between Kingston and Santa Fe Creeks, 24 km s. of Austin, 39°16′30″N, 117°6′20″W, 3230 m, gravel- and cobble-sized talus of slate, 10 Jul 1979, *S. Goodrich 13,324* (BRY, RENO, UC, UTC); near crest of range above Kingston Creek, 24 km s. of Austin, 39°16′45″N, 117°6′15″W, 3300 m, gravel- and cobble-sized talus of slate over clay loam soil with vesicular crust, soil strongly effervescent with 10 percent HCl, pH 8.0, parent material slightly effervescent, with *Ribes montigenum, Haplopappus macronema,* and *Artemisia michauxiana,* 10 Jul 1979, *S. Goodrich 13,322* (BRY, UT).

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